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DIVERGENT THINKING CHARACTERISTICS IN WRITING PAPERS

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ABSTRACT

The purpose of this study was to describe the characteristics of divergent thinking in writing student papers. Characteristics of student divergent thinking are seen from the ideas expressed in a paper. This study used a qualitative approach, data were collected through documentation studies. The results of this study indicate that the characteristics of student divergent thinking in paper writing can be seen from varied ideas and have differences with other texts. These results are in accordance with the characteristics of divergent thinking, namely fluency, authenticity, flexibility, and sensitivity in detecting ideas and problems. The student connects and forms combinations of several ideas into new ideas so that sensitivity understands and responds to a statement correctly. However, students need continuous training in writing papers so that divergent thinking skills develop.

INTRODUCTION

Thinking is a process to regulate and consider the information available in achieving a solution (De Bono, 1992:35). The ability to solve a problem involves the use and manipulation of various types of knowledge in the cognitive system. Cognitive systems play an important role in developing ideas (Kozikoğlu, 2017). With regard to this, thinking ability can be divided into two parts, namely critical and creative thinking. Critical thinking skills are used to understand problems in detail. Creative and critical thinking are equally important for students in all aspects of writing activities. Creative thinking is very important to use in improving the quality of writing (Karaca & Koray, 2017).

Creative thinking is one of the important and needed thinking skills in dealing with problems in the learning process (Meissner, 2006). Creative thinking is a multifaceted human intelligence capacity that is relevant for everyone and includes individual activities and collaboration. This highlight five key concepts that we need to understand, namely using imagination, creative processes, originality, pursuing goals, and evaluating (Grainger et al. 2005:12). Creative thinking is thinking consistently and continuously producing something creative/original in accordance with needs (Nurlaela and Ismayati, 2015:9). The purpose of

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creative thinking, in general, is to make things more meaningful and better (Starko, 2009:7). Creative thinking is synonymous with the ability to generate ideas that have never existed (Piaw, 2010). The ability to produce new or original ideas is a form of problem-solving that is different from before. Problem-solving is seen as one of a number of skills that need to be applied in everything. As the results of the study (Kuzu, 2016), caricatures have a direct relationship with creativity, using caricatures as a tool to develop and improve creative writing skills appropriately. The results of the study are an alternative problem-solving in writing.

In creative thinking, there are several patterns that must be considered, one of which is divergent thinking patterns (Rawlinson, 1981:6). Munandar (2004), explains that divergent thinking is a mental operation that demands the use of creative thinking skills. In fact, in most cognitive psychology research on creativity, the moment of divergent thinking seems to only be achieved by using mental concepts (Pereira, 1999). Divergent thinking is generally accepted in cognitive psychology as the capacity to carry out mental work processes that lead to original and applicable results.

Researches on divergent thinking have been done, such as Pereira (1999), Runco and Acar (2015), Runco (1986), Paul, et al. (2008), and others. The results of these studies contributed greatly to the study of linguistic aspects, findings, theoretical contributions. Divergent thinking in language studies is the subject of conversation and research because one saves the uniqueness of giving birth to language. Nevertheless, there are still other things that have not been illustrated regarding divergent thinking in language, especially in writing student papers.

Papers are one type of scientific essay written systematically and logically (Suyitno, 2012:27). The essay has an objective nature or based on facts that can be tested for truth. The ideas outlined in scientific works have characteristics that can be tested for their livelihood. Scientific can be seen from the theory and data used as supporting ideas. Ideas that can be tested for truth can make meaningful papers. Previous research has been conducted by Swandari (2016), about the presentation of ideas in student papers. The findings show that based on the suitability of the presentation of ideas between sections in the paper, a number of papers have been found that have compatibility between sections and some are not appropriate. The discrepancy between the sections of the chapter system paper is caused by three things, namely (a) discrepancies between questions in the formulation of the problem with the order of exposure of ideas in the discussion, (b) incompatibility of the number of questions in the discussion section, and (c) incompatibility of ideas in the formulation problems with exposure to ideas in the discussion.

The characteristics of divergent thinking in writing papers appear in pouring ideas used by students in both sentences and paragraphs (Thamrin, 2017). Pouring ideas in papers, students must pay attention to the truth of logical causality. The ideas presented must be justified empirically. In this case, students are writers must have a concentration on ideas that are thought. Therefore, it is necessary to avoid error in thinking. Understanding the ability of students 'divergent thinking characteristics is the key to improving students' ability to write papers. This understanding can be used by students to develop appropriate strategies in making meaningful papers. The meaningfulness of an article lies in an idea that is based on facts or empirical data.

This study seeks to highlight the characteristics of student divergent thinking in paper writing. Therefore, the purpose of this study is to describe the characteristics of student divergent thinking in scientific writing. The ideas presented in the paper are grouped into paragraphs so that the characteristics of divergent thinking will appear in them.

METHOD

This study uses a qualitative approach. The qualitative approach is used to obtain information as accurate and as detailed as possible about the characteristics of divergent thinking in writing student papers. A qualitative approach is useful to obtain an in-depth understanding of the characteristics of divergent thinking. Through a qualitative approach, researchers can express the views and perspectives of respondents to the world of scientific writing in depth.

The reason for choosing a qualitative approach in this study is that the qualitative approach is directly related to real experience, provides deep meaning to measured variables, supports natural observations and descriptions, tools for diversity studies, and in studies involving participants qualitative approaches will be very useful to obtain expert information (Aurelbach & Silverstein, 2003:22). Researchers can provide meaning, values, and preconceptions from that perspective (Yin, 2011:8). Researcher's assessment of the characteristics of divergent thinking in student paper writing is obtained from a collection of collected data.

In general, the research data is in the form of presentation of ideas in papers. In accordance with the objectives of the study, the data of this study were in the form of presentation of ideas, coherence of ideas, variations of ideas, and clarification of ideas. The presentation of ideas consists of several ideas and provides explanations with previous ideas that have logical sentences and the accuracy of meaning. The coherence of ideas includes the ability to issue ways and ideas to solve problems or to make unusual combinations of parts or elements. Variations of ideas include the ability to issue ideas, varied answers where the ideas are obtained from different perspectives. Then, clarifying ideas includes reviewing the relevant parts of the idea.

In accordance with the variety of data needed, the data source of this research is a student writing in a paper. The writing in question is a student's idea which is poured into scientific papers in the form of papers. The student writing is then arranged in a sequence so as to facilitate data processing. The reason for choosing a student paper is an effort to observe the process of thinking from aspects of the delivery model used in writing (descriptive, explanatory, and argumentative), novelty (substance and delivery style), and acceptability (affordability, achievement, and adequacy). These three things will appear in the student paper. Writing papers that are used as data sources are papers that fulfill the elements of the paper. The selection of this paper needs to be done so that the paper can be analyzed in accordance with the research objectives.

Data collection in this study through documentation study. This data collection study is a data collection method that is not directed at students. This study is a type of data collection that examines various papers that are useful for analysis. The data used in this study are primary data. Data were written by students who immediately experience an event. Students produce writing based on ideas, experiences, and knowledge directly.

In data analysis, researchers used an analysis model developed by Miles and Huberman (2014), namely data reduction, data presentation, and conclusion drawing. Data reduction in research is a form of analysis that sharpens, classifies, directs, discards unnecessary, and organizes data in such a way that final conclusions can be taken accurately. Data presentation includes activities when a set of information is compiled, so as to give the possibility of drawing conclusions and taking action. Then, conclusions are carried out by researchers continuously as long as they have not discovered anything new from the study of creative thinking in writing student scientific work.

RESEARCH FINDINGS AND DISCUSSION

This section contains the results of research and discussion.

Research Findings

Writing is giving birth to thoughts or feelings in expressing ideas with complex abilities through productive active activities in the form of letter and number symbols systematically so that they can be understood by others. Through writing, an idea that can be understood by the reader is the purpose and purpose. Therefore, writing can be seen as a manifestation of the author's creativity in greeting thoughts and ideas in using written language.

The ideas conveyed in the paper as a whole are reflected in a variety of sentences. The diversity of the sentences illustrates the characteristics of divergent thinking the author of the paper when conveying ideas. The diversity of sentences is not separated from one main idea or

idea in a paragraph. The ideas developed were previous ideas, but had a different delivery style than before. That is, the explanation of a problem cannot be separated from the main sentence. Based on this, it can be stated in the data (1) of the following research.

The essence of character is explored from something that grows from within the nation itself, including regional literature (Maksum, 2011). Thus, before discussing how to develop character, it is necessary to first examine what character will be developed. The right character to be developed and taught is a character that comes from the cultural roots of the nation itself. Cultural roots, which include norms, outlook on life, social relations, economic systems, spirituality, art, and law are interpreted in folklore. Such conditions indicate that culture has a multidimensionality (Ares, 2011). Folk stories which are abstractions from multidimensional cultures reflect multidimensional values as well.

Data (1) consists of several ideas and provides explanations with previous ideas that have logical sentences and the accuracy of meaning. The idea that was written by the author did not deviate from the previous idea, it appears that each author's quote explains again in effective language. The development of ideas used is deductive. In the characteristics of divergent thinking, it belongs to the indicator of fluency. Indicators of fluency, including the ability to issue many ideas, ways, suggestions, questions, ideas or alternative answers smoothly.

The second indicator, authenticity. Authenticity is the ability to issue ways and ideas to solve problems or to make unusual combinations of parts or elements. In divergent thinking, the authenticity of an idea is very necessary, because this indicator greatly influences divergent thinking factors. Where this divergent thinking pattern shows that someone is said to be creative or not in expressing ideas. To be more clear there is in data (2) as follows.

Appropriate character education is in accordance with the noble values of the nation (Liu et al. 2010). Folk stories are an abstraction of collective thinking (Houkes 2012). Therefore, the values contained in folklore can be abstracted and raised as education for the character of the Indonesian people. The approach taken in learning can vary, folklore can be read in front of students, then interpreted together about the values in it repeatedly until the value is integrated into students. Integration of values into students can also be done with other media, such as training students to apply values that will be used as student characters.

In data (2) the ideas poured out seem to provide a solution to the problem. Then, in the presentation of the sentence ideas used to occupy the beginning of the paragraph, the end of the paragraph, or the beginning and end of the paragraph have one main idea. In student papers that are used as data sources, paragraphs are used to present ideas thoroughly so there is no error in scientific thinking. In addition, the sentence used in the paragraph uses effective sentences. Every scientific writing must use effective sentences.

Next, the third indicator, flexibility. Flexibility includes the ability to issue ideas, varied answers where the ideas are obtained from different perspectives. Although in the context of "different", but the author must be able to adjust the ideas that support arguments in solving problems. The variation of an idea must be in one context of the main idea. In student, papers can be seen in data (3).

Values in folklore are used as frames of character education (Myrvold 2012). Thus, this article provides new insights in the form of a review of the character that has been proclaimed by the government. After that, develop the values contained in folklore as the main character. Character education rooted in folklore is part of culture-based education. Culture-based education is very necessary (Hoyos et al. 2015). Culture has full meaning (Oers 2012). Thus, character education is a culture-based education that provides full experience and meaning to students.

In the data (3) it appears that the ideas that are issued are the answers to the problems about student culture. Data (3) revealed a combination of several ideas into new ideas that have novelty value. The author raises new ideas seen from several ideas that are connected (integration). Then, in the excerpt of the data, it fulfills the requirements for the standard of language and the coherence of ideas.

Then, the characteristic indicator of the fourth divergent thinking is sensitivity. Sensitivity is the ability to detect and understand and respond to a statement. To be more clear in the example data (4) below.

Folklore and education have the same context of habitus (Stone & Maynard 2012) and the same process (Stone & Hotchkiss 2012). The commensurate level will make it easier for teachers to instill values as students' character. Folklore will also strengthen literacy (Rowe 2010) so that it has multiple benefits. Implementation of character education is a long process (Thu et al. 2015). Reducing cultural values into education and seeing results requires a long time (Kline et al. 2013). Therefore, character education is carried out consistently.

Sensitivity in divergent thinking can be measured by indicators, one of which is clarifying the information by examining parts of a related idea. In data (4) sensitivity refers to the ability of students to capture or identify the ideas behind a problem. In an effort to explore problems, students also develop their sensitivity in identifying aspects of relevant information.

Based on the results of the study, students in writing papers have the ability to prepare creative thinking with divergent thinking patterns. Various aspects of divergent thinking in writing have been shown through the development of ideas and use of arguments so that the various characteristics of divergent thinking, both fluency, authenticity, flexibility, and sensitivity become more visible. Clarity of student writing will have an impact on logic in writing scientific papers. The information conveyed will be easily understood and accepted based on logic.

Discussion

Based on the description of the results of the study, it can be stated that writing is a process of conveying ideas that require divergent thinking in pouring ideas into the proper sentence structure. In writing shows the author's knowledge of language when trying to attract the interest of others (Grainger, 2005:1). The author must have knowledge of writing styles that are able to attract attention. The writing style has an impact on writings, both negative and positive (İnceçay, 2015).

Divergent thinking contribution in scientific writing is paper writing needs to be based on previous ideas that have the relevance of truth logically and can be accounted for. New concepts can be compared with previous concepts, including the formation of relevant arguments (Kinik Topalsan & Bayram, 2017). As a manifestation of the results of divergent thinking, the paper is the result of the thinking process of a scientist who seeks to express his ideas in accordance with his field of expertise. Expertise development can be done through literature review, collection of experiences, results of field research, and prior knowledge of ideas (Setiawan, 2010:51). In data (1), the author uses several previous ideas and gives an explanation with ideas that have logical sentences and the accuracy of meaning. The accuracy of meaning can influence the reader in proving the truth of a statement.

If the statement is considered true if the statement is coherent and consistent with the previous statement (Djojoseuroto, 2007:197). That is, the container of ideas has a systematic element in a logical sequence to achieve the intent and purpose of the author in presenting ideas or techniques in solving problems. Learning to write papers is a continuous process to get new ideas and knowledge based on previous experience concepts.

In a student paper on data (2), the ideas that are poured out are answers to problems and have original (authenticity) characteristics. Originality is related to ability in expressing an unusual premise (Munandar, 1999). In addition, in the explanation the sentence used occupies at the

beginning of the paragraph, the end of the paragraph or the beginning and end of the paragraph has one main idea. The main sentence is a form of the main idea, while the explanatory sentence is a manifestation of the explanatory idea (Suyono, et al., 2016:27). The main idea becomes the control unit of information because the main idea controls the explanatory ideas that accompany it. If the main ideas and explanatory ideas are related to each other, then a paragraph is said to be unified.

The combination of paragraphs makes it easier for readers to understand the author's mindset. The sequence of systematic thinking in the paragraph will show a combination. The solid paragraph has an effective linguistic element, namely the existence of relationships between sentences. Paragraphs are meaningful structures that are formed by sentences, information, feelings or thought structures by following a sequence of logic (Akdağ & Şahin, 2014). That is, the development of paragraphs logically is the development of paragraphs using a particular mindset. The mindset is influenced by previous ideas that give rise to new ideas with different delivery styles according to the delivery mindset.

The ideas developed in paper writings are grouped into paragraphs. Based on the results of the analysis on the data (3) it appears that the ideas released are the answers to the problems about student culture. Problem-solving is done by reasoning that is quite logical. The author presents the previous idea by stating several reasons. This shows that students use divergent thinking in writing papers. This way of thinking supports a type of structured scientific work and creativity in language. Creative scientific writing makes structured ideas (Junaedi, 2015:10). Through written language, writers can convey arguments in coherent structures. In the delivery of arguments must integrate with empirical facts (Sowey, 2016). Empirical facts are usually obtained based on experience, analyzing and evaluating the results of research. When opportunities are given to students to analyze and evaluate scientific ideas, they can build a concrete understanding of content knowledge and representation in the delivery of ideas (Yeşildağ Hasançevi & Günel, 2013).

The activity of writing paragraphs in scientific work requires supporting ideas. The main idea of a paragraph will be clearer if it is based on supporting ideas. As in data (4), the author bases his ideas with supporting ideas as outlined in a few sentences. The accuracy of the compilation of ideas in the data has unity and coherence, so it has the right value in developing a paragraph. Accuracy in paragraph development is closely related to the development techniques selected by the authors of the paper. Suyitno (2012:148), explains that in developing paragraphs, there are several techniques that can be done, namely nature, climax and core climax, general to specific and specific to the public.

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The paragraph development technique used in writing student papers varies in type. Each paragraph development technique used is in accordance with the development of the paragraph in question. Paragraph development is related to the ability of students to specify ideas in a structured manner. The basis of developing student paragraphs on data (4) can occur because of a logical relationship. Logical relationships are based on the author's response to the details of the idea. Detailing ideas is a common thing that happens in paper writing.

Writing a paper is a complex process and ideas can arise from various experiential activities (reading books, journals, etc.) and the desire to communicate. Through writing papers, various ideas and especially the results of the research will spread widely. Write a paper one part

that is not released from divergent thinking. This can be seen from the research findings and the relationship of indicators. Creativity involves the disclosure or expression of ideas and feelings and the use of various ways to do it (Beetlestone, 2011:3). The information presented in the paper really expresses ideas for the benefit of scientific information. Suyitno (2012:27) said that in writing scientific papers, the author must be free from the subjective elements that can plunge writing into the heresy of scientific thinking.

Writing paper activities is part of divergent thinking activities in language use. Representation of ideas on the use of sentences and the development of paragraphs requires divergent thinking activities so that ideas have fluency, authenticity, flexibility, and sensitivity. Writing papers can be a study of divergent thinking in language, both in terms of linguistic devices and from the ideas that are raised. Then, the results of writing paper skills can be distinguished based on the approach (Akdağ & Şahin, 2014). Another criterion for assessing a paper is the clarity of the organization of the writing. Suyitno (2012:27) says that organizing writings is related to the systematics of papers. In the paper, besides the title, there are also subtitles and sub-subtitles.

CONCLUSIONS

Starting from the description of the results of data analysis and research findings that have been suggested, in general, it can be said that the characteristics of divergent thinking in paper writing can be seen in terms of fluency, authenticity, flexibility, and sensitivity in detecting ideas and problems. The use of divergent thinking in writing can be based on the delivery of ideas clearly and smoothly in the context. Based on these considerations, it can be concluded that the clarity of the delivery of ideas is a complete characteristic of divergent thinking or a marker of representation of student creativity in the use of appropriate ideas. Students connect and form combinations of ideas into ideas that have novelty value, so that sensitivity understands and responds to a statement correctly.

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